

**Claims**

1. A method of manufacturing a plate heat exchanger comprising a plurality of stacked plates (5-8) limiting two or more separate fluids exchanging heat across the said plates, and in which the said plates (5-8) are of double wall design so as to prevent a fluid which might leak through a wall of the plates (5-8) from entering into the path of another fluid, the double walls of each of the said plates being sealingly interconnected around borders of port holes in the plates (5-8),

characterized in that each of the double walled plates (5-8) of the exchanger prior to a brazing operation is provided with brazing material on a surface engaging another double walled plate (5-8), and that the areas of the mutually contacting wall surfaces of the two plates forming a double wall plate around borders (13 Figs. 3 and 8; 18, 19 Fig. 13; 20, 21 Fig. 16) of a port hole are designed so as to only partly cover each other.

2. A method according to claim 1,

characterized in that the borders (13, Figs. 3-7) of the port holes in walls (5a, 5b) engaging each other in a plate (5) of a plate heat exchanger have equal diameters and are provided with relatively displaced indentations (14, 15).

3. A method according to claim 1,

characterised in that the areas around the borders (13; Figs.8-12) of the port holes of two walls (5a, 5b) in a heat exchanger plate (5) are provided with holes (16, 17) said holes (17) in one wall (5a) being angularly displaced relative to said holes (16) in the other wall (5b).

4. A method according to claim 1,

characterised in that the two walls (5a, 5b) of a heat exchanger plate are provided with relatively displaced port holes leaving free areas adjacent to contacting surface areas around a port hole opening (Figs. 13-15).

5. A method according to claim 1,  
c h a r a c t e r i s e d in that the two holes in a pair of walls forming a port hole in a heat exchanger plate are of elliptic shape and angularly displaced (Figs. 16-20).
6. A plate heat exchanger made according to the method defined in any of the preceding claims.

### **Reference List**

- 1 end plate
- 2 end plate
- 3-4 flow guiding plate
- 5a wall of plate
- 5b wall of plate
- 5-8 heat exchanging plates
- 9 inlet opening for heating fluid
- 10 outlet opening for heating fluid
- 11 inlet opening for heated fluid
- 12 outlet opening for heated fluid
- 13 border of port opening
- 14-15 indentations
- 16-17 holes in wall plates
- 18-21 port hole borders